TCS SYSTEM TROUBLE REPORT (STR) REVIEW

CINCUSACOM

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OVERVIEW

- WHAT IS AN STR
- ASSESS 12 WPG STRs FROM TFXXI

SYSTEM TROUBLE REPORTS (STRs)

- Part of TCS configuration control process
- STRs are used to request an enhancement or to document a defect against TCS software, and / or documentation
- HTRs - Hardware Trouble Reports are used for hardware defects
- Assessment Review Board (ARB) reviews STRs & HTRs and assigns to IPTs for investigation and assessment. Results are used to change TCS software, documentation & hardware

STR TFXXI0005
Threat Vulnerabilities

Trouble Description

- TCS operators inadvertently imaged friendly positions due to poor situational awareness (SA)

Recommendations

- Stress proper OPSEC during training
- Automate threat & friendly SA on TCS displays
- Use common encrypted data links when available

STR TFXXI0006
Land Version Disguise

Trouble Description

- Opposition Forces consider UAVs for a “priority kill” therefore the GCS / GDT (large & recognizable) requires consideration of CCD

Recommendations

- Location & CCD are the responsibility of the JFC
- Land versions use camouflage shelters / vehicles
- Investigate other antenna options / shapes

STR TFXXI0007
Land Version Decoys

Trouble Description

- Opposition Forces consider UAVs for a “priority kill” therefore the GCS / GDT (large & recognizable) requires consideration of decoys
- Recommendations
- CCD is the responsibility of the JFC
- Land versions use camouflage shelters / vehicles
- Investigate cost & availability of TCS decoys
- Threat does not warrant decoys at this time

STR TFXXI0008
Simultaneous UAV Operations

Trouble Description

- TFXXI tasking included “simultaneous” UAV operational employment
- Exact definition of “simultaneous” for TCS needs to be established to ensure antenna and frequency usage align to the definition
- Recommendations
- Range of options
  - 1 (TUAV) LOS & 1 (MAE) SATCOM = simultaneous
  - 2 MAE (1 SATCOM & 2LMA) = simultaneous
  - 2 GDT (2 LOS) = simultaneous
  - Relief on station = simultaneous
  - Autonomous landing (1 UCARS) + 1 Manual = simultaneous
- Defined and funded (POM) by service

STR TFXXI0009
JSTARS Interoperations

Trouble Description

- Ensure TCS & JSTARS connectivity reflects exact user concept of this interoperability

Recommendations

- Describe interoperability in TCS CONOPS

STR TFXXI0010
Guardrail Common Sensor (GRCS) Interoperations

Trouble Description

- Ensure TCS & GRCS connectivity reflects exact user concept of this interoperability

Recommendations

- Describe interoperability in TCS CONOPS

STR TFXXI0011
UAV Interchangeability

Trouble Description

- Outrider used to perform more challenging Predator missions due to lack of Predator assets
- Examine interchangeability of mission requirements between high and low end UAVs as implemented in TCS

Recommendations

- Describe interchangeability in TCS CONOPS

STR TFXXI0017
Operator OPTEMPO (Manning)

Trouble Description

- Outrider personnel experimented with on & off duty schedules
- Best schedule for ‘high-tempo” ops was 4hrs on-duty followed by 8hrs off-duty

Recommendations

- Concur & include in TCS CONOPS
- Consider in manning development
- Ultimate OPTEMPO will be determined by JFC based on type of operation

STR TFXXI0019
UAV Operating Altitudes

Trouble Description

- Experimented with both corridor and blanker / block altitude deconfliction
- Blanker / block altitudes worked best and were assigned via the ATO
- Altitudes were based on the detect, recognize and ID slant ranges of each UAV's sensor

Recommendations

- Concur & include in TCS CONOPS
- Altitudes will be determined by JFACC based on type of operation

STR TFXXI0020
Communications Relay

Trouble Description

- Comm relay would enable attack helicopters to remain masked while receiving targeting updates
- Determine requirement for this capability in TCS

Recommendations

- Include in TCS when available in UAVs

STR TFXXI0032
Automation

Trouble Description

- One operator insufficient in medium workload conditions
- Window in window payload views needed
- Prefer Icons & shallow menus
- Auto login
- Point & click coordinates with automatic unit conversion tool
- Moving map centered on AV position
- Allow video capture while previous capture in progress
- Remove non-functioning menus / buttons from display
- Display payload swath on moving map
- Storage, recall & refresh of AV track
- Include TCS-M & TCS-S features
- Up-to-date target list & photos displayed from C4I nets

STR TFXXI0032
Automation (continued)

Recommendations

- Concur with automation suggestions & include in TCS
- TCS Level 1-3 minimum crew 1 with one workstation
- TCS Level 4-5 minimum crew 2 with two workstations

STR TFXXI0042
Two AV support

Trouble Description

- Full support for two AVs would improve the technical capacity of TCS
- Split screen capability to view both AV's imagery is desired

Recommendations

- Concur
- Probably only a TFXXI limitation
- Pass to System Development IPT for action

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